Trouble Closing Extraction Space?

A botched extraction ends up in an orthodontist's chair for space closure.

flourcity
Posted: 8/18/2011
Post: 1 of 13

Has anyone tried closing an extraction space like this?

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

For a clearer view of this chart search "Trouble Closing" on Orthotown.com.

Patient had treatment started by another dentist, who extracted U/L 4s and started ortho treatment, but dismissed the patient before completion. He appears to have created a large defect in the UL4 space during extraction. I referred to perio, who said he could not successfully graft the vertical defect at UL3-mesial, and suggested I close the space then have the patient undergo regular perio maintenance of UL3-mesial pocket. This pano was taken by us, and is about 12 months

Want to see more message boards regarding space closure? Then check out these message boards online.

Space Closure
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Space Closure with Short Roots
Search: Closure with Short Roots

after the extraction. Just out of curiosity, I had the patient request records from the previous dentist, since I was curious why left canines were still in full Class II, and right canines were Class I (not pictured). I found out the previous dentist did not take initial models or photos. He also did not take a lateral ceph, which was somewhat alarming especially since he chose to extract teeth. I did get a copy of the pre-extraction pano and treatment notes/chart. The patient said she was never informed that the extraction had created a defect, nor informed of any complications it might cause in space closure. Two sides to every story though, I guess...

I do recall hearing/reading somewhere that a space like this could be closed, but it would take exceptionally long, and would likely lead to root resorption of the teeth as I am trying to move them into the space. My thought was to inform the patient of these potential complications, and if unsuccessful we will have to explore the option of an implant/bridge; or propose the use of mini-screw anchorage to help with space closure. Your thoughts/advice on the feasibility of space closure would be appreciated. ■

ajbortho
Posted: 8/21/2011
Post: 2 of 13

How old is this patient? Any medical history? I think this is an interesting case, made even more so by the previous treatment. I find the missing left second molars of interest. I am leaning toward a TAD to help retract the left cuspid as the anchorage from the left side is minimal (and the molar is in crossbite) and an end-on Class II. I would not hesitate to attempt the space closure, but informing the patient before proceeding is foremost. ■

mkbark
Posted: 8/22/2011 ▪ Post: 3 of 13

Is there a radiolucency UR3-6? ■

flourcity
Posted: 8/23/2011
Post: 4 of 13

She is 25 years old. Looking at the records I obtained, the other dentist reported 10mm of crowding in upper and lower arches. The chart also says he extracted LL5, but in the other quadrants extracted the 4s. ■

nysent
Posted: 8/24/2011
Post: 5 of 13

This patient and her current malocclusion looks like one I saw in residency – one who had four bis extracted by a resident two years before me but disappeared after he treated her for a year. Three years later, she showed up in my chair one day wanting her braces off. I asked her why she stopped treatment and resurfaced. She answered, she had lost her Medicaid so she stopped coming for treatment but she was back on Medicaid because she was pregnant. However, she would lose it again after the baby was born so she was here to get her braces off while she had the coverage.

Not that this helps you close the spaces, but your back-story reminded me of it. ■

Str8edge
Posted: 9/5/2011
Post: 6 of 13

Wow this is an interesting and tough case. From those photos it looks like she might be in the dental or medical field – obviously consent will be hugely important here.

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I have closed spaces similar to this (with large defects), but not one with a defect quite this big. When the patients were young, it closed, but it took a long time and I had a heck of a time keeping it closed, so you will want carefully consider your retention protocol. I would probably recommend a fixed retainer to span that UL space. It will probably close part of the way and then suddenly not want to close anymore and at that point you might need to increase the forces to get that last bit of closure – use closing loops or something similar.

Another thought that I had was the possibility of using corticotomy-assisted movement (Wilckodontics) in this site. I have never actually used this technique, but have read about it and have heard claims that it is helpful for these situations. I'm sure there are others here that are more qualified to weigh in on this possibility.

Do mind sharing what type of camera you use? I really like the contrast in your photos.

Thank you! ■

like2drill
Posted: 9/6/2011
Post: 7 of 13

My treatment would be to close all the space on the right, open space for a full tooth on the bottom left and close space on the top left for a single premolar (pre-graft, regardless of prognosis).

I realize that there are two sides to every story. Unfortunately, given the lack of records the GP has, he or she doesn't have a side (from a legal standpoint). I usually meet with people one on one and explain this. With a litigious patient, sometimes helping teeth get replaced from a financial standpoint with a signed release form is cheaper than the unpleasant alternatives. ■

str82th2
Posted: 9/11/2011
Post: 8 of 13

Thanks for posting!

That is one massive defect. Apparently the prior dentist is as good at exodontia as he is at orthodontics.

I have closed large spaces such as this, but it takes a lot of time. You should warn the patient to expect 30 months of treatment, minimum. In the meantime I wouldn't hesitate to place mini-screws (at least on the left side) to aid space closure or you aren't going to be able to charge enough for the amount of appointments this will take. I would suggest retracting with labial and palatal mini-screws together (a double-cable retraction) until the UL3 is about Class I and then switch to reciprocal space closure on chain to finish getting a Class I canine and some protraction of the UL to close the remaining space and hopefully drag some bone with the UL5-6 into the defect site. Unfortunately correcting the crossbite will add even more space.

I totally agree that you need a bonded wire to retain the U/L from 5-5. I always do these indirect and transfer them to the mouth. Bending 5-5 is hard but instead of using one long wire try using one piece from 3-3 and then two other short pieces from the 3s to the 5s. Use the resin bonding pad on the 3s to cover the ends of both wires in one. Make sure you open her bite as much as possible or you won't be able to get the wire on the U3s without it being in occlusion.

Because her profile and lip posture are so nice you really could consider opening space and replacing the four missing bicuspids but you probably would have to move the UL5 into the UL4 space bringing bone with it since there is no bone for an implant at the UL4 site. Implanting the UL5 would look better anyway since nothing beats the natural tooth. Try using a Locatelli spring from the UL6 to the UL5 on the lingual to help move the UL5 forward. They work great.

Good luck and thanks for sharing. ■ Larry Levens

I'd love to hear from the original dentist why he or she discontinued treatment. Poor patient cooperation or dentist just gave up? Does he or she have documentation that the patient was told that treatment was not complete (of course not – doesn't even have initial records). What does the patient say she was told about her treatment? ■

mkbark
Posted: 9/12/2011
Post: 9 of 13

The alveolar atrophy of the extraction site UL4 is a minor problem compared to the asymmetry caused by missing UL6 and LL6.

One can note that the lower midline is significantly deviated to the left and if one attempted to close the space of UL4, the maxillary midline will shift to the left as well.

Therefore, I would recommend to open a space between UL5 and UL7 (UL6 is missing). As the second premolar moves mesially it will bring bones with it and solve the alveolar bucco-lingual atrophy. Don't worry and believe me I have done it several times.

In the lower arch, I would do the same. The impacted third molar will stop the lower 7 and minimize distalization.

So it is a two-implant case... if the patient can afford it.

Otherwise micro-implants will be needed to protract everything forward on upper and lower left side. It will take a huge amount of time. The total treatment time will be more than 36 months or so. The prognosis will not be better.

Good luck. ■

SylvainChamberland
Posted: 9/12/2011
Post: 10 of 13

The patient obviously had a LL4 extracted and not the LL5 like the dentist supposedly planned. Looks like he didn't read his own extraction plan or wrote down a false note after realizing that an U/L4 extract on a Class II side leaves you Class II. ■

dondiego2000
Posted: 9/12/2011
Post: 11 of 13

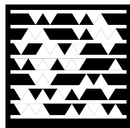
Just close the upper space. It will happen slowly. In the lower arch you need to advance to the left canine to help with your lower arch asymmetry, which will help with midline and will help with not over retracting the upper canine.

This would be fastest by opening up LL4 space, but I think you've got a bit of a defect there for implanting, so I like what someone else said about opening up LL5 space. TADs would help here since you need to not only mesialize the LL5 to close space but also to correct the arch asymmetry. ■

st8nup
Posted: 9/12/2011
Post: 12 of 13

Not really too worried about closing this space. Kokich has shown molars being advanced through bone years after forward molar is lost. I would place full fixed appliances and a TAD between upper L5 and 6. I would tie upper left 5 to TAD and "ankylos" it. I would disarticulate with composite on L6s and slowly retract upper canine by chaining to the 5. Replace chain every four to six weeks. Once upper canine is back, remove lower composite and fully level. Proceed with looped upper wire to retract 2-2. I would say 24 months. ■

nistadel
Posted: 9/15/2011
Post: 13 of 13



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